

CLAIMS

What is claimed is:

1. A pair of self-alignable, ladder-like structures integral with one another in a single sheet of electroconductive material wherein a hinge joint is formed parallel to the rails of said ladder-like structures and wherein the rungs of each are sized and spaced to be aligned with one another when the hinge is in a closed position and to form an elongated tunnel therebetween.
2. A pair of ladder-like structures positioned in register with one another to form a tunnel therebetween wherein said structures are integral with one another and have a hinge joint axis parallel to the longitudinal axis of said tunnel.
3. An improved Klystron device comprising:
an electron beam chamber having opposed spaced electrostatic (ES) magnetic field generating members, said spacing of said ES magnetic field generating members being uniform and along the longitudinal axis of said chamber, said ES magnetic field generating members structured and adapted to generate an electron beam confining magnetic flux when said members are engaged with an alternating current;
electroconductive cross-members electrically insulated from and interspersed between adjacent ES magnetic field generating members, said cross-members integrated in an elongated structure whereby said cross-members are fixed as rungs in a ladder-type structure with said rungs supported on each end by an elongated rail structure which is parallel to the longitudinal axis of said chamber.

4. A method for fabricating a precise miniature ladder-type device of a thin malleable electroconductive sheet of material comprising:
applying a precise mask by photolithographic techniques of the desired structure on a thin electroconductive sheet;
etching the unmasked portions to remove precisely the unmasked portions of the sheet material to result in a ladder-like structure with precisely spaced rungs; and
forming the etched sheet along its longitudinal axis to recess the rung members from the plane of the sheet material.

5. An improved focusing cavity-forming structure for electrostatic focusing of an electron beam comprising a linear support member for supporting uniformly spaced, conductive electrically spaced rung-like elements which when electrically activated carry a current and generate a magnetic field of sufficient intensity to maintain electrons traveling linearly therethrough in a beam configuration, said cavity-forming structure being constructed of two identical halves wherein the two halves are joined along their linear edges to form an elongated cavity through which an electron beam may pass.

6. The focusing tube of Claim 1, wherein the one-piece material is sufficiently malleable to have the two half-structures folded about the continuous linear hinge member to form an elongated cavity with through linear bore, and wherein the one-piece material is curable to form a rigid structure.